In brief

Centronuclear myopathy (CNM) is a type of muscle disease found in Labrador Retrievers and Great Danes. The severity of the clinical signs and age of onset varies, but common manifestations are muscle weakness and skeletal muscle atrophy causing exercise intolerance and posture abnormalities. The inheritance pattern is autosomal recessive.

Clinical overview

The onset and progression of CNM varies amongst individuals and breeds. In Labrador Retrievers, weakened or non-existent peripheral reflexes of the legs can occasionally be observed as early as 1 month of age, although more typically not until the puppies are 2 to 5 months old. At the age of 5 months, the affected puppies manifest diminished locomotion and exercise intolerance. The condition does not usually progress after the first year of life. In adult dogs, the most common signs are severe skeletal muscle atrophy especially in the areas of head, neck, and legs that limit the dog’s ability to keep his head raised (ventroflexion) as well as abnormalities in posture and movements. Although the disorder limits the dog’s athletic potential, it can still have a normal lifespan as a pet. In Great Danes, typical clinical signs of CNM are general atrophy of the muscles, exercise intolerance, and exercise–related tremors of the muscles. Typically clinical signs appear at 6 to 8 months of age and progress with age. Most affected dogs will need to be euthanised before the age of 18 months due to severe weakness of the muscles.

References

Online database
Online Mendelian Inheritance in Animals, OMIA (http://omia.angis.org.au/), Faculty of Veterinary Science, University of Sydney.

Scientific articles
